The Nature of Ecomusicology

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Abstract

The new field of ecomusicology combines ecocriticism with (ethno)musicology. It is the study of music, culture, sound and nature in a period of environmental crisis. To date, most ecomusicologists have accepted nature as real, external, and objectively knowable. However, critical theory, the so-called science wars, and a changed paradigm within ecology have posed serious challenges to scientific realism, balanced ecosystems, and to the economic rationality which has caused environmental degradation. Going forward, ecomusicologists can meet these challenges by relying on an ecological construction of nature based in a relational epistemology of diversity, interconnectedness, and co-presence. In that way, ecomusicology can work meaningfully towards sustaining music within the soundscape of life on planet Earth.

Keywords: ecomusicology; nature; critical theory; relational epistemology; environment.

Resumo

O novo campo da ecomusicologia combina a ecocrítica com a (etno)musicologia. Essa junção irá permitir o estudo da música, cultura, som e natureza num momento de crise ambiental. Até agora, a maioria dos ecomusicólogos tem aceitado a natureza como algo real, externo e objetivamente conhecível. Porém, a teoria crítica, as chamadas guerras da ciência e uma mudança de paradigma dentro da ecologia têm apresentado desafios sérios ao realismo científico, aos ecossistemas equilibrados e à racionalidade econômica que tem causado a degradação do meioambiente. Seguindo em frente, os ecomusicólogos podem enfrentar estes desafios através de uma construção ecológica da natureza baseada numa epistemologia relacional de diversidade, interligação e co-presença. Desta maneira, a ecomusicologia pode trabalhar de forma significativa para a sustentabilidade da música dentro da paisagem sonora da vida no planeta Terra.

Palavras-chave: ecomusicologia; natureza; teoria crítica; epistemologia relacional; meioambiente.

By my title, the nature of ecomusicology, I mean two things: (a) its nature; that is, how ecomusicologists are constructing this new field and the kind of work they are doing in it; and (2) ecomusicology's idea of nature; that is, what ecomusicology brings both to nature and to ongoing issues concerning music and sustainability.

The problem of music and sustainability is not only a problem of politics but also of knowledge. It is an epistemological problem. In the last few years I have become increasingly convinced that the proper frame is sound and sustainability; music is too narrowing. We should open our ears to all sound, music included. We think of sustainability as a discourse in environmentalism and economics, and as a problem of ethics, technology and policy. We would also do well to examine how ideas of nature are embedded in culture, how science constructs nature, and how economic rationality constructs the environment.

Ecomusicology is defined by Aaron Allen as "the study of music, culture and

nature in all the complexities of these terms" (ALLEN, 2013). It is the study of music, nature, culture, and the environment at a time of environmental crisis. Ecomusicology is still a child, only about six years old as a named academic field. It combines literary ecocriticism with musicology (including ethnomusicology).

Literary ecocriticism arose in the late 1980s, and offered readings of literary works that emphasized the literary author's treatment of nature, particularly wild nature but also pastoral representations of nature. Ecomusicology began similarly, offering interpretations of musical works that emphasized the composer's treatment of nature. Environmentalism, ecology, and a sense of the ongoing environmental crisis inform these interpretations. In the 1990s the scope of literary ecocriticism broadened to emphasize "place" more generally, including suburbia, cities, and the literature of the built environment. Following the lead of acoustic ecologists, ecomusicologists pay attention to all soundscapes, including those in urban environments.

Allen is careful to define ecomusicology not as an academic discipline with consensus over its subject and method, but as a field with related subjects, and varying assumptions, approaches, and methods. Sustainability is one of the main concerns of contemporary ecomusicologists; indeed, within environmental discourse sustainability is prominent. For that reason, ecomusicology holds promise for music and sustainability studies.

My plan in this paper is as follows. First, I will claim that thus far most ecomusicologists have conceived of nature from the standpoint of scientific realism, and I will suggest that sooner or later ecomusicology must confront a more problematized nature. This more problematized nature reflects epistemological difficulties that result chiefly from the impact of economic rationality on the environment, the most obvious of which are global warming, income inequality, and social injustice. Second, in a brief review of the so-called science wars and of the response of ecological science to critical theory, I will outline some of the further difficulties that a problematized nature presents to the field of ecomusicology. Third, I will suggest how a holistic relational epistemology of interconnectedness, based in ecology and fundamentally different from that arising from scientific reductionism and economic rationality, offers an epistemological pathway to a more sustainable concept of nature, music, and the environment. Even if human music turns out to be auditory cheesecake, in Steven Pinker's formulation (PINKER, 1997, p.534), it would be hard to deny the importance of sound to animal communication (humans included) and, therefore, to life on planet Earth (TITON, 2012). Relational epistemology offers a counterforce to globalization and neoliberalism which, to my mind, present the greatest threats to music, sustainability, and the environment.

This is a work in progress, so I will appreciate your responses and suggestions, now and throughout this conference. This work grows out of ideas expressed in my published writings, public lectures, and research blog; yet the part of it I am presenting here and now is new work, or at least an attempt at a new synthesis. I invite your comments and critique and ask you to bear with me for the next hour or so.

I define sustainability this way: A sustainable system is one in which the goal is permanence achieved through the utilization of renewable resources. This perma-

nence is not the permanence we associate with something that never changes. Rather, it is dynamic. The elements in the system, their proportions, structures, relations, and functions will vary; but the system itself is permanent for practical purposes in the fore-seeable future, though not for eternity. The usual example of this kind of sustainable system is a forest, but we may also think of such examples as a university, an economic system, and a music community.

Insofar as ecomusicology is involved with nature, it would do well to consider the two most powerful sustainability discourses, those in environmentalism and in economics. Of course, we also have a manifestation of these discourses in the popular culture, usually taking the form of living a "green" or sustainable life, by conserving energy in one's home, recycling, eating local food, riding a bicycle, and reducing one's personal carbon use. My university has a sustainability initiative entitled "Brown is green," which consists chiefly of recycling; but considering its energy use I would call Brown's environmental impact more brown than green.

Because ecomusicology is so new and presents a moving target, I think the best way to pursue its nature not to look to definitions but rather to consider what research ecomusicologists are doing, what their subjects and assumptions are. The work presented at the most recent international ecomusicology conference, which took place in November, 2012, in New Orleans, offers a window on contemporary activity in the field. Having participated in the conference myself, I was struck by the variety of subjects; but eventually patterns emerged and eventually I concluded that ecomusicologists approached music and nature in one or both of two ways: first, music as a representation of nature; and, second, music interacting with nature. Nature most often was wild nature, but pastoral nature and the nature of the built environment also made their appearances.

Most scholars at the ecomusicology conference offered papers discussing how musical works represent nature. In doing so, they were following the lead of ecocriticism, except that they were examining musical works, not literary works. Their titles illustrate the subjects and approaches: "Theorizing the musical landscapes of John Luther Adams"; "Negotiating nature and music through technology: ecological reflections in the works of Maggi Payne and Laurie Spiegel"; "Listening to landscape in Luc Ferrari's Petite Symphonie"; "The natures of David Tudor's electronic music." Others offered papers discussing musical representations of nature in film, music festivals, and television advertising. Of course, an environmentalist agenda always was implied if not explicit, while nature was understood to be both real and threatened.

A second ecomusicological approach to nature, apparent at the ecomusicology conference in New Orleans in the fall of 2012, considered music's direct impact on the environment, rather than how musical compositions represent the environment. Their topics included music and social action, environmental justice, and laws proposed and enacted to promote sustainability. They also included soundscape ecology, an area of particular interest to me, and one which I like to think about as the flow of music and sound in the environment. In all of these areas, economics is an important consideration.

The titles of some of the papers presented at the conference give an idea of these direct approaches to music and nature: "Instrument builders as environmental activists"; "Guitar making, sustainability, and community building in Britain and Africa"; "Environmental scientists and the evolution of soundscape ecology," "Agency and aural rights." Political, economic and legal aspects of music, nature, society and the environment are important in this direct approach to music and nature, as is a willingness to think of music as an acoustic environment, which expands the idea of music to include sound of all kinds.

Of special interest to citizens of Brazil were papers addressed to the sustainability of endangered species such as Pernambuco and Brazilian rosewood used in making violin bows and guitars, and thus to the sustainability of the forest ecological systems that support their growth. I am sure that this audience knows that the Brazilian government has passed legislation governing their use and prohibiting export. I own two old guitars made of Brazilian rosewood; I was told that if I brought them into Brazil I would be forbidden to take them back out of Brazil.

None of the ecomusicologists presenting at that conference confronted the postmodern critique of the concept "nature." Regarding nature as real and threatened, they did not pause to consider nature as a human social/cultural construct. None of them were concerned, as I am, about the fundamental difference between nature as the scientific realist conceives of it and nature as the postmodern critical theorist regards it. While most ecomusicologists were concerned with music, nature, economics, and the environment, their ideas were rooted in the epistemology of scientific realism, that nature is real, external, and increasingly knowable through objective, Western scientific procedures. None of them mentioned the so-called science wars of the 1990s, in which critics questioned the basis for scientific realism and claimed that science continues to construct a failed Enlightenment grand narrative. Likewise, although the ecomusicologists presenting at the conference attacked the economic policies that have enabled environmental disasters, they did not attack the epistemological bases of economic knowledge about human beings, nature, and human nature.

I said earlier that we would be wise to consider economics and sustainability not just in terms of carbon emissions and policy but in the very way economists think about nature. So let us digress to economics for a few moments. It is a truism that Euro-American economic thought has, for centuries, regarded nature as a resource for human use; indeed, the phrase "natural resource" implies it. Recall, also, that European classical economists assumed that all human beings "naturally" trade things, and that the object of a good trade is material wealth. Efficient trade and the wealth of nations require a division of labor. As Adam Smith wrote, the human division of labor results from "a certain propensity in human nature [...] to truck, barter, and exchange" (SMITH, 1776, cap. 2). Such a trade-driven creature has come to be called "economic man." This assumption has directed Euro-American neoclassical economic theory since the Enlightenment and is the basis for contemporary neo-liberalism. It is expressed today in what is called rational choice theory, which states that "economic man" weighs predicted benefits against costs, and always attempts to maximize this ratio when making an economic choice. As does Andre Gorz, I call this way of thinking "economic rationality" (GORZ, 1989).

Economic rationality is premised on commodity exchanges in the marketplace, transactions that are subject to legal contracts. The advantage of the legal contract, as economists have pointed out, is that it is impersonal. Subject to certainty and the law, it frees the buyer and seller to accumulate wealth unencumbered from what might otherwise be a tangle of social obligations of the sort that would obtain in a gift exchange.

"Sustainable development" is a quintessential expression of economic rationality. Sustainable development entered public discourse in 1987 when a UN agency, the Brundtland Commission, defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (BRUNDTLAND, 1987).

The ecological economist Herman E. Daly has argued that "economic man" theory is incompatible with sustainable development; rather, economic activity must always take environmental limits and constraints into account (DALY, 1993). In the 1990s Daly believed that the concept of sustainable development was salvageable. Twenty years later, I believe "sustainable development" is an oxymoron and has become a stalking horse for sustainable growth. Certainly, when corporations such as Exxon and Monsanto proclaim that they are "green" capitalists enabling sustainable development on an international scale, it is plain from their "greenwashing" that they have co-opted the phrase sustainable development for their own unsustainable ends (TI-TON, 2009, p.9)

Let us return from our digression on economics and go back to ecomusicology. The conference began with a sound walk. On a sound walk, as many of you know, one does not talk but instead pays careful attention to and contemplates the acoustic environments encountered as one walks along. No one tells you what to listen for or interprets the sounds for you. Instead, you are encouraged to develop your own acoustic epistemology.

Like most guided sound walks, this one took place in an urban environment, and although we occasionally heard nature directly in bird songs, most of the sounds we heard were mechanical and the result of human economic activity: airplanes, the sounds of air passing through large ventilators in the buildings, the sounds of automobile traffic, the sounds of a humanly constructed waterfall sculpture inside a restaurant, and so forth. It was an instance of the way ecomusicologists take a direct rather than representational approach to music, in this case environmental sounds.

As stated above, the ecomusicologists at the conference adopted the epistemological standpoint of scientific realism. Its philosophical position is familiar: Experimental science gradually reveals the nature of the universe, its patterns and the natural laws that govern it. Scientific truth differs from mere belief in that it is inductive and subject to independent verification. Scientific experiments are replicable, hypotheses are tested, conclusions are either confirmed or, if they are not verified, they are discarded as false and replaced with better ones. Science therefore gradually progresses to offer us an increasingly accurate portrait of what nature is and how nature works.

In the last half of the 20th century, critical theorists such as Foucault, Rorty, and Harding attacked scientific realism and its claims to universal truth. As is well known to

academic humanists, this was a major part of the post-structuralist, deconstructive and postmodern critique of modernity. Modern science, they argued, was peculiar to its time and place: Western Europe and the developed world since the Enlightenment. Bruno Latour's later work on scientific laboratory culture underlined Foucault's claim that knowledge did not progress toward greater understanding but instead was captive to a social consensus among an interpretive community of qualified scientists. Scientists in turn were beholden to the political and economic needs of the developed world and subject to the general prejudices prevalent in society. Far from emancipating humankind from superstition, the critics wrote, science enslaved human beings by providing a scientific basis for false claims of racial, gender, and cultural superiority, and providing a rationale for Western colonization and empire.

Some scientists, especially physicists, fought back against this critique, and the ensuing debate came to be known as the "science wars." Of course, most scientists ignored the critique and went about their business; but environmentalists and some ecologists engaged in the debate. Understanding their activities in response to this powerful critique of scientific realism and economic rationality is crucial for the ecomusicologist seeking a more nuanced epistemology of nature and the environment, and so I must at least summarize the impact of the science wars on environmentalism and scientific ecology, an impact that began to be felt about 40 years ago and is still with us.

Environmentalists argued that the misuse of Western science in the service of economic rationality had resulted in environmental destruction. A few radical environmentalists then gave up on science altogether. But most environmentalists called for a wiser science to manage an increasingly complex environment for sustainability. They looked to ecology to inform and to help guide their conservation efforts. What did they find? How did ecological science fight the science wars?

The ecologists did not respond in a consistent way. A minority did become caught up in the environmental movement and sought to apply ecological principles to the conservation of endangered species. Led by ecologist Michael Soulé, they called themselves conservation biologists and came to be known also as conservation ecologists (SOULÉ, 1985). Soulé himself responded to the science critics by editing a volume entitled *Reinventing nature*. In the introduction he wrote:

The so-called deconstructionist view [...] asserts that all we can ever perceive about the world are shadows, and that we can never escape our particular biases and fixed historical-cultural positions. Moreover, some in the deconstructionist movement boldly assert that the natural world as described by scientists and conservationists, if it exists, is a human artifact produced by our economic activities, and as such it is grist for further material reshaping [...]. The opposing view, defended to varying degrees by the authors, assumes that the world, including its living components, really does exist apart from humanity's perceptions and beliefs about it. Most of the authors [in this volume] agree that we can gain dependable, scientific knowledge about this independent, natural world, in spite of differences among us in class, gender, culture, and historical perspective [... We] agree that certain forms of intellectual and social relativism can be just as destructive to nature as bulldozers and chain saws" (SOULÉ, 1995, xvi-xvi).

Soulé writes that although the postmodern assault on science was offered in the name of opposing Western hegemony, on the contrary it strengthened Western hegemony by discrediting conservation efforts.

Although conservation ecologists like Soulé engaged with the postmodern challenge to scientific realism, most ecologists did not. Instead they were focused on a battle within their own ranks, a paradigm shift that ecology underwent in the latter decades of the twentieth century. Until then, ecology operated under the optimistic paradigm of nature's economy. To the natural historians of the Enlightenment, nature's economy meant that nature was the greatest economist, working most efficiently to take care of her own household. Nature was a patterned, interlocking whole, with its parts functioning for the greater good in a great chain of being, all overseen by God. Although the rise of modern science and the triumph of Darwin's evolutionary theory in the 19th century put an end to God's oversight, pattern and interlocking chains remained, coming to be expressed in the holistic concept of natural succession and the ecosystem, concepts offered between the twentieth century's two World Wars by Frederick Clements and Arthur Tansley. The ecosystem paradigm came to its zenith in the mid-20th century work of Eugene Odom, who defined it as "any unit that includes all the organisms in a given area interacting with the physical environment so that a flow of energy leads to clearly defined [...] structure, biotic diversity, and material cycles within the system." Ecosystems characterize the entire planet, whether as small as a lake or as large as a tropical rain forest. As the ecohistorian Donald Worster points out, for Odum

[...] what all these ecosystems have in common is a 'strategy of development,' a kind of game plan that gives nature an overall direction. In Odum's words, it is 'directed toward achieving as large and diverse an organic structure as is possible within the limits set by the [...] prevailing physical conditions of existence.' Every single ecosystem, he believed is either moving toward or has already achieved that goal. It is a clear, coherent, and easily observable strategy, [and it leads to a state of dynamic equilibrium] to a world of mutualism and cooperation among the organisms inhabiting the area. From an early stage of competing against one another, they evolve toward a more symbiotic relationship [...] until at last they have the power to protect themselves from its stressful cycles of drought and flood, [...] cold and heat (WORSTER, 1994, p.160).

But beginning in the 1960s, ecologists began to challenge Odum's ecosystem paradigm. One study after another found that particular ecosystems did not move in the direction of mutualism, cooperation, and equilibrium; rather, the evidence they gathered showed that over time, particularly geological time, change, disorder and the struggle for existence among species was the normal state of nature, not balance. Instead of order, the new normal involved frequent disturbance, human-made and otherwise – invasions of foreign species, fire and other natural accidents, and longer-term ecosystem alterations such as gradual climate change. The ecohistorian Worster attributes this paradigm shift to the discovery of chaos theory.

Nature, now [in the 1990s] is seen as fundamentally erratic, discontinuous, and un-

predictable. It is full of seemingly random events that elude our models [...]. If the ultimate test of any body of scientific knowledge is its ability to predict events, then all the sciences [...] fail the test regularly (WORSTER, 1994, p.167).

Today, ecosystem ecologists still are in retreat, while the field itself becomes increasingly specialized. Ecosystems are discussed nowadays not in terms of a balance of nature or tendencies toward equilibria, but rather in terms of the "ecosystem services" (resources) they provide. Rather than a balance of nature or nature's economy, the discourse is about resilience to disturbance and resistance to change.

While environmentalists and conservation biologists resisted the paradigm change in scientific ecology, environmental historians welcomed it. Human history had, after all, worked many changes on the environment, transforming wilderness into farms, and agricultural areas into urban areas; forests had been cut down and logged; mining had altered many landscapes; roads, bridges, railroads, factories all contributed to a built modern environment. For the environmental historian, the built environment was at least as important, if not more important, than wild nature. In elevating change and disturbance, the ecological paradigm had also diminished the role of a balanced, wild nature as an ideal condition (COATES, 2004, p.408-416).

Let us now leave this all too brief summary of disarray within ecology, and return to our main argument. Ecomusicologists have not yet problematized nature. They adopt the same modernist perspective that environmentalists do: that is, nature is real and endangered. Yet it was modern science combined with economic rationality that got us into our environmental crisis in the first place. A few ecomusicologists, however, are aware of this paradox. A proposal for the first book to survey work in ecomusicology, entitled *Ecomusicology: a field guide*, and co-edited by Kevin Dawe and Aaron Allen, whose definition of ecomusicology is the one I quoted earlier, recognizes these complications by distinguishing between nature and "nature." In this formulation, nature without the scare quotes stands for scientific realism, while within the scare quotes nature stands for something that has no external reality but rather is humanly and socially constructed. It remains, then, to be seen how ecomusicologists may work out the complications of a problematized nature.

For music and sustainability, a relational epistemology offers an interesting and, I believe, promising alternative to economic rationality and scientific reductionism regarding nature. I do not claim originality for this concept; only, perhaps, for its application to ecomusicology. Relational epistemologies of various kinds have been around for a long time, far longer than economic rationality. One version was called animism, the term used by Edward Tylor, usually regarded as the founder of modern anthropology. Postmodern anthropologists have reconfigured animism in a more positive way, not as bad science but as a metaphorical alternative to a science gone bad. The sociologist Karl Polanyi may have been the first to apply this anthropological insight globally, writing about the transformation to market capitalism from an earlier European idea of trade. Polanyi claims that prior to market capitalism, the greater significance of a trade exchange lay not in any accumulation of material wealth, but in the subsequent adjustment of social relationships (POLANYI, 1944). A sociology that emphasizes networks of human relationships rather than economic rationality, social capital rather than economic capital, is another manifestation. It includes the work of cybernetics and systems analysis, and the late work of polymaths such as Gregory Bateson, whose book *Mind and nature: a necessary synthesis* offers an important, science-based alternative to Cartesian dualism (BATESON, 1979). And it links to the environment in the emerging field of political ecology, which according to Enrique Leff

[...] explores the power relations between society and nature embedded in social interests, institutions, knowledge and imaginaries that weave the life-worlds of the people [...] in environmental rationality [... and] decolonizing knowledge [to] open alternative ways of understanding reality, nature, human life, and social relations (LEFF, 2013).

One of the oldest relational epistemologies is found in the history of ecology itself. Ecology, after all, is the study of the relationships among living and non-living things, growing out of natural history and the idea of nature's economy. Ecology has always been uneasy with scientific reductionism, insisting on emergent, relational properties of systems that manifest only at higher levels and disappear when the whole is reduced to the sum of its parts. And while relational thinking is most obvious in ecology's older, balance of nature paradigm, it is no less prevalent in the contemporary paradigm involving disturbance and patch dynamics, for relations among living and nonliving things remain the focus.

What the ecological study of nature and the postmodern critique of nature have in common is a reliance on connectedness, on interdependence, and on relationships. That is, instead of Enlightenment individuality we have postmodern and ecological collectivity, the web of relations. Foucault's sociological writings are not merely directed at power, but power relationships. Post-colonial anthropology and ethnomusicology begins with a critique of colonial as well as scholarly authority and asymmetrical power relationships. For deconstructionists, that web is the intertextuality (ideology) that constructs the subject. Derrida himself "described his own brand of reading as aiming at 'a certain relationship, unperceived by the writer, between what he commands and what he does not command of the schemata of the language that he uses" (JEFFERSON, 2013, p.10).

For a final example of holism in a postmodern deconstructive critique of nature I turn to Timothy Merton's arrestingly-titled book, *Ecology without nature*. As the book title implies, Merton deconstructs "nature" as either an impossible romantic fancy or as an impossible object of scientific realism (MERTON, 2007). But what can ecology be absent "nature?" Merton's next book, *The ecological thought*, was his answer: what was left to ecology after the disappearance of "nature" was interconnectedness, interdependent relationships (MERTON, 2010). In short, what is left is relational epistemology involving persons, networks, and intersubjective reality. Even when deconstruction erases nature, it does not erase relational epistemology.

An ecomusicological construction of nature worth having, it seems to me, will be based in this relational epistemology. Ethnomusicology has a contribution to make here. On one hand, musical ethnographies, particularly those of indigenous peoples, have revealed indigenous peoples' worldviews involving sound and music in relational epistemologies. To cite the classic example, Steven Feld's work with the Kaluli constructed a relational epistemology involving birds, myth, sound, and weeping; he calls this sound-based epistemology "acoustemology." There are at least a half-dozen other such explicit musical ethnographies, and even more could be read implicitly in this way. On the other hand, ethnomusicology's belated turn to the study of world popular music confirms insights from cultural studies, that music industry behavior is an expression of economic man. Even movements to conserve or safeguard intangible cultural heritage are couched in terms of the prevailing economic rationality when they argue that heritage tourism fuels the local economy and that arts education stimulates the creativity needed for innovation that will help corporations compete globally. WIPO (the UNESCO-sponsored World Intellectual Property Organization) also embodies economic rationality in regarding cultural heritage as group intellectual property, to be subject to international law. To think that a music worth sustaining will grow out of cultural policies based in economic rationality is badly misguided, I believe (see TITON, 2008present).

Relational epistemology, on the other hand, holds promise for sustainability; and it may be observed in musical communities, not just those such as the Kaluli or the Africans whom Turnbull thought sang to the forest to wake her up so she would take care of her people (TURNBULL, 1961). We find the same relational epistemology in musical communities based in social rather than economic capital, particularly when there is little or no financial gain to speak of, and people come together to make music for the love of it, as Wavne Booth describes it in his important book on musical amateurism (BOOTH, 1999). Such amateur music-making has been characteristic in Western societies all along, whether in the family consorts of viols during the Renaissance and Baroque periods, amateur string quartet playing today, or musical revivals all over the world, for fun, sometimes for truth, but seldom for money. Monographs on the Cajun musical revival by Mark DeWitt, and of the Balkan musical revival by Mirjana Lausevic, are just two examples by card-carrying ethnomusicologists (DEWITT, 2008; LAU-SEVIC, 2007). In these communities, and others like them, musical exchanges may be understood more as gifts than commodities. Their importance lies not because they are expressions of economic man wanting to maximize wealth, but rather of living beings seeking social relationships as well as pleasure. To Steven Pinker music is no more than auditory cheesecake, a pleasant diversion but not an evolutionary advantage (PINKER, 1997, p.534). Yet when ecomusicology opens music to nature, and we think not narrowly of music but of the flow of all sound in the environment (music included), it appears advantaged in many ways. Sound turns space into sacred place; it enables communication among animals, including humans; and it puts beings into co-presence with one another and their environments. Surely sounding is not just an evolutionary advantage but a necessity for sustaining life on planet earth.

References Cited

ALLEN, Aaron. "Ecomusicology." In: *Grove dictionary of American music*, GARRETT, Charles Hiroshi (ed.). New York: Oxford University Press. 2nd edition, in press, 2013.

ALLEN, T. F. H.; ZELLMER, A. J.; WUENNENBERG, C. J. "The loss of narrative." In: *Ecological paradigms lost*, CUDDINGTON, Kim; BEISNER, Beatrix (eds.). Burlington, MA: Elsevier, 2005.

BATESON, Gregory. Mind and nature: a necessary unity. New York: Hampton Press, 1979.

BOOTH, Wayne C. For the love of it. Chicago: University of Chicago Press, 1999.

BRUNDTLAND World Commission on Environment and Development. *Our common future*. Oxford, UK: Oxford University Press, 1987.

COATES, Peter. "Emerging from the wilderness (or, From redwoods to bananas): recent environmental history in the United States and the rest of the Americas." *Environment and history*, Vol.10, n.4, p. 407-438, 2004.

DALY, Herman E. "Sustainable growth: an impossibility theorem." In: *Valuing the earth*, DALY, Herman E.; TOWNSEND Kenneth N. (eds.). Cambridge, MA: MIT Press, 1993.

DEWITT, Mark. *Cajun and Zydeco dance music in Northern California*. Oxford, MS: University of Mississippi Press, 2008.

GORZ, Andre. *Critique of economic reason*. HANDYSIDE Gillian; TURNER Chris (transl.). London: Verso, 1989.

JEFFERSON, Ann. "Review of Benoit Peeters, Derrida: a biography." *Times Literary Supplement*, March 15, 2013.

LAUSEVIC, Marina. Balkan fascination. Cambridge, MA: Harvard University Press, 2007.

LEFF, Enrique. "Political ecology: a Latin American perspective." UNESCO Encyclopedia of Life Support Systems [EOLSS] (at http://www.eolss.net/), 2013.

MERTON, Timothy. Ecology without nature. Cambridge, MA: Harvard University Press. 2007.

. The ecological thought. Cambridge, MA: Harvard University Press, 2010.

PINKER, Steven. How the mind works. New York: Norton, 1997.

POLANYI, Karl. The great transformation. Boston: Beacon Press, 1944.

SMITH, Adam. 1776. *The wealth of nations*. Chapter 2. Accessed as free pdf file May 15, 2013 at www2.hn.psu.edu/faculty/jmanis/adam-smith/wealth-nations.pdf

SOULÉ, Michael. "What is conservation biology?" BioScience, vol. 35, n. 11, p.727-734, 1985.

. "Preface". In: SOULÉ, Michael; LEASE, Gary (ed.). *Reinventing nature*, Washington, DC: Island Press. 1995.

TITON, Jeff Todd. "Sustainable music." Blog on music and sustainability. http://sustainablemusic.blogspot.com, 2008-present.

. "Economy, ecology and music: an introduction." *The world of music,* vol. 51, n.1, p. $\overline{5-16, 2009}$.

. "A sound commons for all living creatures." *Smithsonian folkways magazine*, Fall-Winter 2012, special issue on sounds and soundscapes. Accessed May 15, 2013 at http://www.folkways.si.edu/magazine/2012 fall winter/sounding off.aspx, 2012.

TURNBULL, Colin. The forest people. New York: Simon and Schuster, 1961.

WORSTER, Donald. The wealth of nature. New York: Oxford University Press, 1994.